

THE 37TH ANNUAL SYMPOSIUM OF

TECHNICAL PROGRAM CHAIRS

PROGRAM CHAIR: David P. Adams  
Sandia National Laboratories

VICE CHAIR: Maarten de Boer  
Sandia National Laboratories

SESSION 1

The Science of Microfabrication

Session Chairs: James Maxwell  
Los Alamos National Laboratories

James Fleming  
Sandia National Laboratories

Invited Speakers

RANDY GILES  
Lucent Technologies

JOSEF HORMES  
Louisiana State University/CAMD

A large number of microdevices have been demonstrated recently for potential use in communication, medical, pharmaceutical, military and security applications. In all cases, a functional, packaged microsystem requires a suite of techniques for construction. We are seeking talks that emphasize the underlying science of microfabrication and discuss recent advances in these technologies. Suitable talks include studies that expand on mature technologies such as Si processing (UV lithography, etching) or investigations of emerging processes such as LIGA, laser chemical vapor deposition and focused ion beam sputtering. Studies that demonstrate how fundamental mechanisms (beam-solid interactions, chemical reactions, etc.) can be used to control feature size, aspect ratio, rate of fabrication or shape are of interest. We also desire talks that describe novel device structures, particularly those having nonplanar geometries; and research that enhances the materials base for microfabrication.

THE NEW MEXICO CHAPTER OF

SESSION 2

Thin Films:  
from Atomic Structure to Devices

Session Chairs: Jerry Floro  
Sandia National Laboratories

Invited Speakers

PAUL HOLLOWAY  
University of Florida, Distinguished AVS Lecturer

WILLIAM NIX  
Stanford University

ERIC CHASON  
Brown University

The mechanical behavior of thin films critically affects the design and performance of devices for applications in microelectronics, protective coatings and sensors. In particular, it has become important to understand the evolution and interaction of thin film stress (intrinsic and extrinsic), microstructure, morphology, interface roughness and adhesion. In this session, we are seeking talks that address these issues both from a fundamental and applied viewpoint. This includes, but is not limited to, studies on the evolution of thin film properties during growth by sputtering, MBE, CVD or other techniques. Effects of aging on the properties of thin films, including multilayers, are also of interest. Secondly, we invite talks that relate film structure and properties to device performance and reliability. This includes recent advances in thin films used for microelectronics components, such as interconnects and contacts.

THE AMERICAN VACUUM SOCIETY

SESSION 3

Nanometer-scale Materials Processing and Properties

Session Chairs: Neal Shinn  
Terry Michalske  
Sandia National Laboratories

Invited Speakers

JAMES HEATH  
University of California-Los Angeles

RACHEL GOLDMAN  
University of Michigan

This session will address the formation of nanometer-scale structured materials, the properties of such materials, and opportunities for new nanotechnologies. Papers are solicited in the following areas: fundamental research on nanostructured surfaces, interfaces, or composite materials and effects such as ordering, self-assembly, and phase transformations. Unique electronic, optical, mechanical or chemical properties of nanostructured materials are of interest. Combinations of experiment, theory and/or simulation are encouraged. In addition, new work on nanofabricated devices is welcome, including such topics as quantum dots, molecular electronics and nanoelectromechanical systems (NEMS).

ABSTRACT SUBMISSION

Abstracts for contributed papers must be submitted by e-mail to [dpadams@sandia.gov](mailto:dpadams@sandia.gov) either as a MS Word file or in the body of the e-mail. The abstract deadline is **April 27, 2001**. Abstracts should include: 1) the intended session, 2) paper title, 3) authors' names, 4) authors' affiliations, and 5) e-mail address of presenting or contact author.

MAY 23 - 24, 2001

Please enter information as you wish it to appear on your Name Badge and Attendees List

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- ☐ Symposium Registration • \$150.00
- ☐ Full Time University Student • Free
- ☐ Presenting a paper to be considered for the Student Award
- ☐ Will attend Chapter Member Luncheon • May 23
- ☐ Will attend AVS-NM Dinner • May 23

Ways to register

Mail registration form and payment to:

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Method of Payment

Room Rates are \$99 single and \$109 double occupancy, plus tax. The cut-off date for the group rate reservations is **April 21, 2001**. After that date rooms will be available at the symposium rate on a space available basis. To obtain symposium rates, be sure to identify yourself as an attendee of the 37<sup>th</sup> AVS/ NMC Symposium, short course or vendor show. For more information, contact: **WYNDHAM ALBUQUERQUE HOTEL**  
**AT INTERNATIONAL SUNPORT**  
**2910 YALE BLVD SE**  
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### STUDENT FINANCIAL ASSISTANCE

Support is available for students presenting papers at the Symposium. Request must be made at the time abstract is submitted. Details will be provided with paper acceptance notification.

### STUDENT AWARDS

Students should indicate their interest in the competition and request for financial assistance when they submit their abstracts.

#### 1st Place Award

All expense paid trip to the AVS National Meeting - **San Francisco**

## Vendor Show

The Vendor Show will be held May 24<sup>th</sup> and will include state of the art vacuum technology, surface analysis and thin film deposition equipment from approximately 40 vendors. Companies interested in exhibiting at the show should contact the Vendor Show Coordinator, Guild Copeland at 505 284.2694 or gcopeavs@aol.com

## Short Courses

A variety of short courses that focus on different aspects of vacuum science and technology will be offered during the week of May 21-25, 2001 at the same venue. Printed announcements including detailed short course descriptions can be requested by contacting Dr. Heidi Ruffner: voice mail or fax 505 296.3816. Additional information can be accessed via the AVS/ NMC website at <http://nmavs.lanl.gov/course.html>

Detailed descriptions of most of the short courses are also available at the AVS National website <http://www.vacuum.org/catalog/catalog.html>

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# Papers

## SYMPOSIUM

**May 23-24, 2001**

**ABSTRACT DEADLINE**  
**April 27, 2001**

## VENDOR SHOW

**May 24, 2001**



## SHORT COURSES

**May 21 - 25, 2001**

# JOIN US

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